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EXAMINER

WASSUM, LUKE S

ART UNIT PAPER NUMBER

2177

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/580,327

Applicant(s)

STEINBACH, RALF D.

Examiner

Luke S. Wassum

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-11,13-21,23-28 and 30-43 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 1-4,6-11,13-21,23-28 and 30-43 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Applicant's amendment, filed 21 November 2002, has been received, entered into the record, and considered.
2. As a result of the amendment, claims 1, 6-11, 18, 23-28, 30 and 32 have been amended, claims 5, 12, 22 and 29 have been canceled, and new claims 33-43 have been added. Claims 1-4, 6-11, 13-21, 23-28 and 30-43 are now presented for examination.

Specification

3. As a result of the amendment to the specification, the pending objection to the specification is withdrawn.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4, 6-9, 18-21, 23-26, 32-38 and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Taylor et al. (U.S. Patent 6,256,676).

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6. Regarding claims 1, 18, 32, 33 and 43, Taylor et al. teaches a system, method and software for retrieving data from a database using a data management system as claimed, comprising:

a) a change retrieval engine coupled to the data management system and operable to:

- i) determine that data in the database managed by the data management system has been changed (see col. 3, line 61 through col. 4, line 4; see also col. 18, lines 13-18);
- ii) receive information from the data management system identifying a particular business object with which the change data is associated (see col. 15, line 50 through col. 16, line 49; see also col. 17, lines 11-25; see also col. 18, lines 13-18);
- iii) access a data model specifying, for each of a plurality of business objects including the particular business object, references to one or more tables managed by the data management system that include data related to the business object (see col. 15, lines 50-60; see also col. 18, line 56 through col. 19, line 58, and particularly, col. 19, lines 28-40);
- iv) identify according to the data model the tables specified for the particular business object to identify data to be retrieved from the database using the data management system according to the retrieved information (see col. 15, line 50 through col. 16, line 49; see also discussion of message definition objects, col. 15, lines 50-55);
- v) request from the data management system the data to be retrieved included in the tables identified according to the data model (see col. 15, line 50 through col. 16, line 49; see also col. 18, lines 13-18);

- vi) receive the data from the data management system (see col. 15, line 50 through col. 16, line 49; see also col. 18, lines 13-18);
 - vii) store the data in a data log (see col. 15, line 50 through col. 16, line 49; see also col. 14, lines 60-62);
 - viii) communicate a transfer command (see col. 15, line 50 through col. 16, line 49; see also col. 18, lines 13-18); and
- b) a change transfer engine coupled to the change retrieval engine and operable to:
- i) receive the transfer command (see col. 15, line 50 through col. 16, line 49; see also col. 18, lines 13-18);
 - ii) obtain the data from the data log (see col. 15, line 50 through col. 16, line 49; see also col. 18, lines 13-18); and
 - iii) communicate the data to an external system (see col. 15, line 50 through col. 16, line 49; see also col. 18, lines 13-18).

7. Regarding claims 2 and 19, Taylor et al. teaches a system, method and software for retrieving data as claimed, wherein the data management system comprises an enterprise resource planning (ERP) system and the external system comprises an external planning system (see Figure 1; see also col. 2, lines 42-64; see also col. 7, line 7 through col. 8, line 20; see also col. 10, lines 3-64).

8. Regarding claims 3, 4, 20, 21, 34 and 35, Taylor et al. teaches a system, method and software for retrieving data as claimed, wherein the change retrieval engine is further operable to monitor the data management system or receive a message to determine when a change document is

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created, the change document indicating that data managed by the data management system has been changed (see col. 3, line 60 through col. 4, line 4; see also col. 18, lines 13-18).

9. Regarding claims 6, 7, 23, 24 and 36, **Taylor et al.** teaches a system, method and software for retrieving data as claimed, wherein the business objects are identified in the data model by a business object name or the name of a main table of data associated with the business object (see discussion of the system as a business system, col. 1, line 35 through col. 6, line 55; see also col. 17, lines 17-40; see also Figure 9).

10. Regarding claims 8, 9, 25, 26, 37 and 38, **Taylor et al.** teaches a system, method and software for retrieving data as claimed, wherein

- a) the change retrieval engine is further operable to receive one or more key values from the data management system, each key value identifying an instance of the particular business object for which data was changed (see col. 15, lines 50-55); and
- b) the change retrieval engine is further operable to request data from the tables that are associated with one or more instances of the particular business object, the instances of the particular business object identified by one or more key values received from the data management system (see col. 15, line 50 through col. 16, line 49; see also col. 17, lines 11-54; see also col. 17, lines 11-40; see also Figure 9).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 10, 11, 27, 28, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Taylor et al.** (U.S. Patent 6,256,676) as applied to claims 1-4, 6-9, 18-21, 23-26, 32-38 and 43 above, and further in view of **Boothby et al.** (U.S. Patent 6,212,529).

13. Regarding claims 10, 11, 27, 28, 39 and 40, **Taylor et al.** teaches a system, method and software for retrieving data substantially as claimed.

Taylor et al. does not explicitly teach a system, method and software wherein field reductions/filters are applied to the tables according to the data model.

Boothby et al., however, teaches a system, method and software wherein field reductions/filters are applied to the tables according to the data model (see col. 8, lines 44-53; see also col. 13, line 63 through col. 14, line 36).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate field reduction/filters, since data to be synchronized can be in dissimilar tables, and some fields in tables to be synchronized might not exist in the table to which the table is being synchronized, and so it would be wasteful to transmit such fields (see col. 14, lines 11-36).

14. Claims 13-16, 30 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Taylor et al.** (U.S. Patent 6,256,676) as applied to claims 1-4, 6-9, 18-21, 23-26, 32-38 and 43 above, and further in view of **Breitbart et al.** (U.S. Patent 6,381,609).

15. Regarding claims 13-16, 30 and 41, **Taylor et al.** teaches a system, method and software for retrieving data substantially as claimed.

Taylor et al. does not explicitly teach a system, method and software incorporating a data replication procedure that includes provisions to include serialization of the updates, so as to ensure that updates are made in the same order on the target system as on the source.

Breitbart et al., however, teaches a system, method and software incorporating a data replication procedure that includes provisions to include serialization of the updates, so as to ensure that updates are made in the same order on the target system as on the source (see col. 2, line 11 through col. 3, line 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate provisions to include serialization of the updates, since otherwise it is possible to introduce data conflicts (see col. 1, line 66 through col. 2, line 9).

16. Claims 17, 31 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Taylor et al.** (U.S. Patent 6,256,676) as applied to claims 1-4, 6-9, 18-21, 23-26, 32-38 and 43 above, and further in view of **Chang et al.** (U.S. Patent 6,308,178).

17. Regarding claims 17, 31 and 42, Taylor et al. teaches a system, method and software for retrieving data substantially as claimed, including a means for handling errors detected in the agent-adaptor between enterprise applications and the system (see col. 34, lines 17-18; see also col. 35, lines 47-51).

Taylor et al. does not explicitly teach a system and method for retrieving data wherein an error log is created if the data is not communicated to the external system, and the error is communicated to the external system before communicating additional data.

Chang et al., however, teaches a system and method for retrieving data wherein an error log is created if the data is not communicated to the external system, and the error is communicated to the external system before communicating additional data (see discussion of the validator, col. 9, lines 26-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to communicate errors in transmission to the external system, since this would allow the external system to take some remedial action to resynchronize the data between the two systems, and furthermore because in the absence of such a message the external system would be out of sync with the server, and would have the potential to present erroneous data to a user.

Response to Arguments

18. Applicant's arguments filed 21 November 2002 have been fully considered but they are not persuasive.

19. Regarding the argument that the **Taylor et al.** reference fails to teach the change retrieval engine that accesses a data model specifying references to tables that include data related to the business object, the examiner believes that the disclosed transformer teaches analogous functionality. See col. 18, line 56 through col. 19, line 58, and particularly, col. 19, lines 28-40, where Taylor teaches an example where the transformer retrieves related data (the transformer retrieves a business object with a state field, 'VA', and retrieves related data, 'Virginia', based on the data model, i.e., the transformer definition.

20. Regarding the argument that the **Taylor et al.** reference fails to teach the requesting of data for a particular business object included in tables, the examiner responds that the reference clearly teaches a system wherein the data is stored in a relational database management system (see col. 10, lines 3-9), tables being inherent in an RDBMS.

21. Regarding the argument that the **Taylor et al.** reference fails to teach the data model or the business objects, the examiner responds that the message definitions, which are the primary objects around the integration flow (col. 16, lines 32-35), is analogous to the claimed business objects, and the claimed data model is analogous to Taylor's message and transformer definition objects (see col. 15, lines 50-60), in that they define the specific data that makes up the business objects (message definitions).

Furthermore, the invention disclosed by Taylor clearly includes the use of business objects, as discussed in the background of the invention, cols. 1-6, and particularly at col. 3, lines 4-12.

22. Regarding the argument that the **Taylor et al.** reference fails to teach the use of key values, the examiner believes that the use of key values is taught at col. 15, lines 50-55. Since the message definition object identifies data that the system is to propagate to an enterprise application, and furthermore, the reference teaches that the messaging system is event driven, and is used to migrate data from disparate systems to a central data warehouse or repository (see col. 11, lines 29-40).

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Blankesteijn (U.S. Patent Application Publication 2002/0165724) teaches a method and system for propagating data changes from a source to a destination via a replication mechanism.

Breitbart et al. (U.S. Patent 6,499,037) teaches a data replication mechanism that guarantees update serialization.

Hirashima et al. (U.S. Patent 6,301,589) teaches a system for performing replication of directory data.

Crozier (U.S. Patent 5,392,390) teaches a system for mapping, translating and dynamically reconciling data between disparate databases.

Ball et al. ("Supply Chain Infrastructures: System Integration and Information Sharing") teaches different implementations of information sharing in supply chain integration systems.

Yeung et al. ("A Multi-Agent Approach to Immediate View Maintenance for an Operational Data Store") teaches an operational data store wherein data changes at the sources must be correctly propagated to the data store in order to keep the data store up-to-date.

Padmos et al. ("How i2 Integrates Simulation in Supply Chain Optimization") teaches how simulation fits within i2's solution set with regards to supply chain optimization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 703-305-5706. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.


In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 703-746-5658.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Luke S. Wassum
Art Unit 2177

lsw
January 16, 2003



JEAN E. BREENE
PRIMARY EXAMINER